Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-3 (Canceled)

4. (Currently Amended) A JAVA™ virtual machine residing on a computing apparatus and operating in a JAVA™ computing environment, said JAVA™ virtual machine capable of executing a Bytecode instruction to determine ~~determining~~ a string representation associated with a JAVA™ object, ~~wherein said virtual machine determines~~ thereby determining said string representation of said JAVA™ object without invoking a JAVA™ "to_string" method, wherein said virtual machine is capable of performing the following operations when said Bytecode instruction is executed in order to determine said string representation of a said JAVA™ object:

pushing a reference to said JAVA™ object on an execution stack;

popping said reference to said JAVA™ object from said execution stack;

determining a string representation of a field associated with said JAVA™ object by accessing said JAVA™ object using said reference; and

pushing a reference to said string representation of said field on top of said execution stack.

5. (Previously Presented) A JAVA™ virtual machine as recited in claim 4, wherein said JAVA™ virtual machine executes a JAVA™ Bytecode instruction, said JAVA™ Bytecode instruction operating to determine said string representation associated with said JAVA™ object; thereby allowing said

string representation to be determined without invoking a JAVA™ method.

6. (Cancelled)

7. (Previously Presented) A JAVA™ virtual machine as recited in claim 5, wherein said JAVA™ virtual machine operates in an embedded system.

8. (Currently Amended) In a JAVA™ computing environment, a method of retrieving by a virtual machine a string representation for a JAVA™ object, said virtual machine residing on a computing apparatus, said method comprising:

receiving a JAVA™ Bytecode instruction in a stream of JAVA™ Bytecodes suitable for execution by a virtual machine operating in said JAVA™ computing environment, wherein said JAVA™ Bytecode instruction is designated to determine said string representation for said JAVA™ object;

executing said JAVA™ Bytecode instruction;

pushing a reference to said JAVA™ object on an execution stack when said JAVA™ Bytecode instruction is executed;

popping said reference to said JAVA™ object from said execution stack;

determining a string representation of a field associated with said JAVA™ object by accessing said JAVA™ object using said reference; ~~and~~

pushing a reference to said string representation of said field on top of said execution stack after said string representation has been determined; and

wherein said JAVA™ Bytecode instruction operates to determine said string representation associated with said JAVA™ object[[;]], thereby allowing said string representation to be determined without invoking a JAVA™ method.

9-10. (Cancelled)

11. (Previously Presented) A method as recited in claim 8, wherein said pushing of a reference to said JAVA™ object is performed by execution of a JAVA™ Aload execution.

12. (Previously Presented) A method as recited in claim 11, wherein said method is performed by a virtual machine.

13. (Previously Presented) A method as recited in claim 12, wherein said virtual machine is operating in an embedded system.

14. (Currently Amended) A computer readable medium including computer program code for retrieving a string representation for a JAVA™ object, said computer readable medium comprising:

computer program code for receiving a JAVA™ Bytecode instruction in a stream of JAVA™ Bytecodes suitable for execution by a virtual machine operating in a JAVA™ computing environment, and

wherein said JAVA™ Bytecode instruction operates to determine said string representation associated with said JAVA™ object[[;]], thereby allowing said string representation to be determined without invoking a JAVA™ method.

15. (Previously Presented) A computer readable medium as recited in claim 14, wherein said computer readable medium further comprises:

computer program code for popping a reference to a JAVA™ object from an execution stack;

computer program code for determining a string representation of a

field associated with said JAVA™ object; and

computer program code for pushing a reference to said string representation of said field on top of said execution stack.

16. (Cancelled)

17. (Previously Presented) A computer readable medium as recited in claim 15, wherein said computer program code comprises a JAVA™ Aload instruction that when executed performs the pushing of said reference.

18. (Currently Amended) A computer readable medium as recited in claim 17, wherein said computer readable ~~media~~ medium is read by a JAVA™ virtual machine.

19. (Previously Presented) A computer readable medium as recited in claim 18, wherein said virtual machine is operating in an embedded system.

20. (Currently Amended) A computer system for retrieving a string representation for a JAVA™ object in a JAVA™ computing environment, said computer system capable of operating to:

receive a JAVA™ Bytecode instruction in a stream of JAVA™ Bytecodes suitable for execution by a virtual machine operating in said JAVA™ computing environment, wherein said JAVA™ Bytecode instruction operates to determine said string representation associated with said JAVA™ object, thereby allowing said string representation to be determined without invoking a JAVA™ method;

executing said JAVA™ Bytecode instruction;

pushing a reference to said JAVA™ object on an execution stack when said JAVA™ Bytecode instruction is executed;

popping said reference to said JAVA™ object from said execution stack;

determining a string representation of a field associated with said JAVA™ object by accessing said JAVA™ object using said reference; and

push a reference to said string representation of said field on top of said execution stack; and

~~wherein said JAVA™ Bytecode instruction operates to determine said string representation associated with said JAVA™ object; thereby allowing said string representation to be determined without invoking a JAVA™ method.~~

21. (Previously Presented) A computer system as recited in claim 20, wherein said pushing of a reference to said JAVA™ object is performed by execution of a JAVA™ Aload bytecode.

22. (Previously Presented) A computer system as recited in claim 21, wherein said virtual machine operates in an embedded system.